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THE MANAGEMENT OF THE INTESTINE AFTER ABDOMINAL SECTION.

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The treatment of the intestine after abdominal operations is in itself a special study and, while considering this, reference must be made to the food and drink which the patient is to have.

Until gas has passed from the anus the quantity of fluid must be limited, and no solid food is allowed for about a week. For the first five or six hours after the operation a teaspoonful of cold water is to be given at long intervals, but only if the patient ask for it. Then hot water, as nearly boiling as it can be taken, is what allays thirst best.

During the first night the average quantity of hot water given will be about five or six ounces, and the exact amount will depend on the condition of the patient. If the skin be dry, less must be given than when there is free perspiration; and if the patient be inclined to vomit, nothing whatever must be given by the mouth, thirst being relieved if necessary by an injection of eight or ten ounces of weak milk and water. After the gas has passed the quantity may be increased. Ice should never be allowed; it is deliciously cooling at the moment, but it is difficult to regulate the quantity of fluid, and the patient continually asks for one little piece more. Besides, much cold water does not assist the downward passage of the gas.

A little stimulant is of service in almost every case, a teaspoonful or so of brandy or whisky occasionally makes the patient feel better and prevents the weary hours seeming so long. One or two ounces may be given in the twenty-four hours, but when the patient is very weak the spirit may be drunk like water. As much as an ounce and

a half in the hour has been known to do good and not make the patient intoxicated.

When the patient is weak, rectal injections must be commenced immediately after the operation and continued every two, three, or four hours until the stomach can retain nourishment. As soon as the gas begins to pass through the rectal tube, a little weak tea will be much appreciated, even by those who do not care for it as a rule. Then a small cupful of well-boiled gruel may be given and repeated in six or eight hours. This with the tea and stimulants is sufficient for the day following the first passage of the gas. The next day a larger quantity of the gruel may be given three times or may be varied with some clear, thin soup. Toward the end of the week a little bread and butter may be added to the diet and, after the bowels have been thoroughly moved, fish, pounded chicken, sweetbread, etc., may be given.

When a patient is very weak, and especially if she has been accustomed to take food often, it may be necessary to give something every two hours and to continue the injections as long as they are retained. In these feeble people do not spare the stimulant. It may be well to fix a minimum quantity and give instructions that the patient may have it as often as she wishes in addition, so long as the smell of alcohol does not remain constantly in the breath.

In the majority of cases what is most difficult to learn is that Nature will see the patient through her troubles if we do not interfere but, when Nature threatens to fail, we must be prepared to assist without delay. As it is impossible to say that progress will be satisfactory even after the most simple abdominal operation, it is necessary that the patient be seen at least three times in the twenty-four hours for the first three days, no matter how well the case is progressing.

The one important sign of satisfactory progress which must always be looked for is the passage of gas from the rectum. When it has passed freely the chief danger is over. It is often difficult to wait and watch, to have faith in Nature and to hold one's hand, when it appears that she is likely to fail. The passage of flatus commences from fifteen to thirty hours after the operation ; sometimes, but not very often, it may pass sooner and at other times this sign may not be noticed for fifty, sixty, or even one hundred hours. In the very large majority of cases all that is required is to avoid straining by opening the sphincter ani and thus prevent pressure on the tender wound. For this purpose a hollow glass, not thicker than one of Dr. Keith's drainage tubes, is to be used, and it may be incidentally mentioned that

the extreme diameter of these tubes is three eighths of an inch. The tube is passed into the rectum for about four inches whenever there are colicky pains in the left side of the abdomen. It may be left for hours in this position so long as it does not cause irritation, and when there are piles or the rectum is sensitive a little cocaine ointment may be used as a lubricant. Treatment, except by thus opening the sphincter, is to be avoided at first; all that is necessary is to prevent undue irritation of the stomach by not giving too much food or drink.

When treatment becomes necessary it must be prompt, there is not any time to lose, for a few hours of inactivity at the wrong time may easily result in the death of the patient. The symptoms which call for interference are vomiting, distention of the abdomen, either when accompanied by colicky pains or not, and especially when long-continued windy pains have been followed by intestinal paresis. This brings us to the cause of distention, excluding mechanical obstruction. Two theories have been advanced : the one is, that the distention is due to commencing peritonitis ; the other, that it is due to a paresis or paralysis of the intestine itself. As a variety of the latter must be included the so-called septic peritonitis, as this may be a septicæmia without any definite inflammation of the peritonæum. There is truth in both of these hypotheses, though it is probable that distention is comparatively seldom caused by peritonitis. We do not have opportunities of examining the peritonæum at the time when distention begins, and it is thus impossible to say with absolute certainty what is the exact pathological condition. A careful clinical study leads one to the conclusion that the sympathetic nervous system has much to do with this condition. This conclusion is strengthened by the post-mortem examination of cases of so-called acute septic peritonitis, but which are described more correctly by the single word septicæmia. At such examination no sign of inflammation may be seen except in the neighborhood of the wound ; but some, perhaps very little, red serum will be found. The symptom of distention is common both to these cases of septicæmia or septic peritonitis and to those of what is usually called simple peritonitis ; and it is possible that, as there is little inflammation in the one case, there may also be little in the other. Still there can not be any doubt that cases of simple traumatic peritonitis are met with. Distention ought never to be treated by any routine method. When it is accompanied by increased peristalsis, it would be folly to treat it in the same way as when it is due to cessation of this peristaltic action. In the former case, when there are frequent colicky pains and no appearance of flatus passing downward, it must

be evident that it would be a mistake to increase this useless peristaltic action, and treatment must be directed to quieting it. When there is a want of intestinal movement, and when there has been no previous condition of increased peristalsis and consequent exhaustion of the ganglia of the sympathetic nervous system, it is necessary to stimulate these ganglia and thus set up movement of the intestine. If the abdomen begins to distend when there has not been much or any peristaltic action, and when the sympathetic nervous system is therefore not exhausted, a stimulant to the nerve ganglia is required. Some very hot water or bicarbonate of soda and hot water is to be given, or a drachm of the sulphate of magnesia with ten grains of the carbonate in peppermint water, and repeated every two hours until the bowels move. If there be vomiting with derangement of the stomach itself it is better to give the stimulant by the rectum. For this purpose six grains of quinine are to be dissolved in a couple of ounces of weak whisky and water and injected into the bowel. Three such doses are to be given at intervals of two hours, the rectal tube being put in for fifteen or twenty minutes before each.

No drug has been more abused in the after treatment of abdominal operations than morphine, and there is no drug which can serve a more useful purpose; but it must be given with discrimination and with a clear understanding of what will be obtained by its administration. If the choice lay between so much opium so many times a day and its entire exclusion from the lists of abdominal remedies, preference would be given to its exclusion. Formerly, opium was used too much and in too large doses, and now the other extreme seems to have been reached and many decline to give it under any circumstances. The hypodermic method of administration must always be employed ; to give the drug by the mouth is in some cases absolutely useless, as no absorption may be going on from the whole alimentary canal. The dose must never exceed one quarter of a grain of the tartrate and will vary down to one twelfth; the more common amount being from a sixth to a ninth of a grain. When there are frequent colicky pains and no gas is passing from the anus, one sixth of a grain will soothe the excited intestine, and wind will often pass easily and within half an hour.

A more anxious condition of the intestine is that of paresis following great peristaltic effort. This means that there is some obstruction to the passage downward of the flatus, which the muscular action of the intestine has failed to overcome. A rest must be given to the tired-out muscular fibers before an effort is made to stimulate them

to renewed action. Give one sixth of a grain of morphine, or even in exceptional cases a larger dose, and stop all fluid by the mouth. After this dose allow a rest of three or four hours, then give the quinine by the rectum ; if the first dose does not set up windy pains let the patient have from one to two tablespoonfuls of castor oil by the mouth and continue the quinine until the three doses have been given. Should this fail, give a large enema with turpentine, turn the patient on the side and, if necessary, repeat the turpentine injection several times. If there be no septicæmia nor any mechanical block wind can always be got down, if the proper treatment for the case be used.

When there is vomiting, one must discover if possible its exact cause. Is it due to the anæsthetic, to some derangement of the stomach, to the mechanical pressure of a distended colon or to the condition of the intestinal secretions ? When the vomited matter is either sweet or sour, a teaspoonful of bicarbonate of soda is to be given in eight or ten ounces of warm water. This either acts as an emetic or neutralizes and dilutes the acidity. Some attach great importance to washing out the stomach, but this is more fatiguing and distressing than the soda. Mechanical pressure on the stomach may be relieved by rubbing the back, or by raising it on a small firm pillow, so as to give more room. When the vomiting is part of the general state of relaxation and distention quinine by the rectum will be found invaluable, especially if the stomach reject everything.

So far we have dealt with cases where there was not supposed to be any evidence of septicæmia. The first symptoms of this dread condition are noticed about eighteen hours after the operation ; there is some difference in the expression and in the manner of the patient. At the very commencement it is difficult to say exactly what is noticed ; there is something not quite natural, and a few hours later this shows itself in the eyes and mouth. There is an appearance of fixation about the face, the eyes have a wild look and the upper lip is beginning to be drawn up. The manner too has changed ; the patient may be elaborately polite, talks in a rapid jerky fashion and, if given a drink, will clutch the cup and put it to the lips quickly and abruptly. There is a look impossible to describe, that makes one's heart sink on first seeing the patient. In the commencement it may be passed over, but any one who has seen one well-marked case is not likely ever to forget the appearance. To have the slightest hope of success in the combat with this disease we must throw overboard the good plan of waiting on the natural efforts, for this will lead to but one result. By

the time that the first appearance of septicæmia is noticed there may be some, perhaps slight, distention ; and all our efforts must be directed to the elimination of the poison by, if possible, free movement of the bowels and by the action of the skin. The administration of the saline mixture must be begun immediately and the quinine added to the nutritive enemata. A small dose of morphine will not interfere with the action of the laxative and will perhaps cause the skin to act. If taken early enough it is possible to believe that an undoubted case of septicæmia might be cured, provided that the absorption of the poison has stopped and the patient has sufficient vitality to overcome what has been taken into the system. If absorption be allowed to go on, the patient must inevitably die. As soon as we find that the bowels will not move nor the skin act, and we feel certain that we are dealing with a case of septicæmia, the treatment ought to be to open up the lower angle of the wound, to put in a drainage tube to the bottom of the pelvis if there be not one already there—being quite sure that it does reach to the bottom of the *cul-de-sac*—and to wash out with a large quantity of warm water. It is useless to attempt to wash out by the tube unless an exit be provided for the escape of the fluid. This can hardly be done too soon in a case of septicæmia, but we must be very sure of the diagnosis ; for, if the patient be not relieved by the removal of septic matter, the simple opening up of the wound may be enough to turn the balance against her.

In conclusion we may lay down very shortly a few general rules :

(*a*) When the general condition of the patient is fairly good and the abdomen is not distending, and when there is not much colic, let things take their natural course. This advice holds for the great majority of cases.

(*b*) When the abdomen is distending without a previous state of peristaltic action shown by much colic, and when there is a tendency to vomiting, give the mixture of magnesia until the bowels move.

(*c*) Treat distention without colic or vomiting by the quinine injections.

(*d*) Quiet excessive peristaltic action by small doses of morphine given hypodermically.

(*e*) For distention following excessive peristalsis give a small dose of morphine followed in a few hours by castor oil or magnesia.

(*f*) When there is septicæmia, wash out the abdomen as soon as the condition is evident and treat as above.

(*g*) Do not get into the habit of calling septicæmia shock, exhaustion or any such term. Be content to believe that some mistake has been made in the antiseptic precautions and that additional care must be taken in future.

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